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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/616,457	07/14/2000	Xiao Chen	99-464	6786

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CATERPILLAR INC.
100 N.E. ADAMS STREET
PATENT DEPT.
PEORIA, IL 616296490

EXAMINER

RAO, SHEELA S

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/616,457

Applicant(s)

CHEN ET AL.

Examiner

Sheela Rao

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/1/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's response filed on October 1, 2004 has been entered and considered.
2. Claims 1-16 remain pending and are presented for examination. No claims have been amended or entered.

Response to Applicant's Response

3. The references listed on IDS, PTO-form 1449, has been received and considered. A signed copy of the form is included
4. The rejection of claims 1-16 under 35 USC §103(a) as being obvious in view of Tanaka et al. (USPN 6,061,640) is maintained and has been restated below.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka, et al. (USPN 6,061,640).

The Tanaka reference discloses a method for extracting abnormal factors in a processing operation. The method collects data based on product quality and informational data that adversely affect the product quality. The adverse factor data includes apparatus history, manufacturing conditions, and measurement data. The extraction of such data helps with the analysis of the operational process. The analysis of factors is made at several stages, i.e. past – present- future, to enable the tracking of adverse affects or conditions on material in the operational process. The method of tracking fatigue as taught by the prior art is similar to that of which is claimed by instant claims 1, 8, and 13.

The reference of prior art to Tanaka does not teach or disclose the use of the appraising methodology within a thermal process or a thermal cutting process or a welding process, as per claims 2-7, 9-12, and 14-16, respectively. As for the use of the method for tracking abnormalities in the particular manufacturing processes, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the method of Tanaka in any manufacturing environment. Once the method is applied, the parameters being tracked would solely be dependent upon the environment used thereon. Thereby, yielding pertinent results for each process.

For the reasons stated above, the limitations of the claimed invention (claims 1-16) is taught by the prior art of record; thereby, rendering the instant claims unpatentable.

Response to Arguments

7. Applicant's arguments filed October 1, 2004 have been fully considered but they are not persuasive.

The rejection of the pending claims over the patent to Tanaka et al. is maintained as the patented reference teaches the limitations of the instant invention as claimed. Applicant argues that the Tanaka reference "does not discuss stress and distortion information, receiving stress and distortion information for a material from a previous manufacturing process, or determining updated stress and distortion information ...". As it has been clearly stated in the prior Office action, "[t]he method [by Tanaka] collects data based on product quality and informational data that adversely affects the product quality. The adverse factor data includes apparatus history, manufacturing conditions, and measurement data. The extraction of such data helps with the analysis of the operational process. The analysis of factors is made at several stages, i.e. past – present- future, to enable the tracking of adverse affects or conditions on material in the operational process." At col. 3: ll. 37, et seq., the prior art of reference discusses the process used for collecting and processing the adverse factor data (information regarding stresses and distortions). Tanaka teaches that the data to be analyzed is input as parameters into an input unit which is then used by the search unit for analysis. Furthermore, the disclosure by Tanaka states

that the analysis is made at several stages so as to define the variables at each stage of analysis.

The analysis of the data at multiple stages as taught by Tanaka encompasses the limitations of the instant invention, therefor, rendering the instant claims unpatentable.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela Rao whose telephone number is (571) 272-3751. The examiner can normally be reached Tuesday - Thursday from 9:00 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard, can be reached on (571) 272-3749.

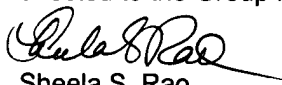
Any response to this action should be mailed to:

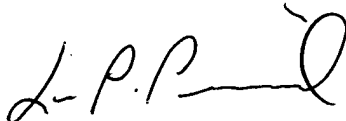
**Commissioner of Patents and Trademarks
Washington, D.C. 20231**

or faxed to:

(703) 305-3718 for Official Communications

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.


Sheela S. Rao
January 3, 2005



**LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100**